UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R070XB069NM

Site Name: Shallow Plains

Precipitation or Climate Zone: 13 to 16 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site is nearly level to undulating in topography with some slopes ranging up to 10 percent. Aspect varies but is not significant. It occurs at elevations ranging from 4,400 to 6,600 feet above sea level. The differentiating characteristics of this site are the shallow sands occurring from 10 to 20 inches over bedrock or caliche.

Land Form:

1. Plain
2.
3.

Aspect:

1. N/A
2.
3.

	Minimum	Maximum
Elevation (feet)	4,400	6,600
Slope (percent)	1	10
Water Table Depth (inches)	N/A	N/A

Flooding:	**Minimum**	**Maximum**
Frequency	N/A	N/A
Duration	N/A	N/A

Ponding:	**Minimum**	**Maximum**
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Negligible to medium.

CLIMATIC FEATURES

Narrative:

The climate of this area can be classified as "semi-arid continental".

Annual average precipitation ranges from 13 to 16 inches. About seventy eight percent of the moisture usually falls during the six-month period of May through October. Most of this summer precipitation falls in the form of brief and heavy afternoon and evening thunderstorms. Hail may accompany the more severe summer storms. In the winter, there is normally only one day a month when as much as one-tenth inch of moisture falls, usually in the form of snow. Snow seldom lies on the ground for more than a few days.

Temperatures are characterized by a distinct seasonal change and large annual and diurnal temperature ranges. Summers are moderately warm. Maximum temperature average above 90 degrees F from July to August and an average summer includes about 80 days with high readings exceeding 90 degrees F and 10 days with readings above 100 degrees F. Temperatures usually fall rapidly after sundown and low of 60 degrees F on most summer nights. Winters are mild, sunny and dry. Daytime shade temperatures in midwinter usually rise to the 50's. However, freezing temperatures normally occur at night from mid-November to mid-March.

The freeze-free season ranges from 190 to 197 days. Dates of the last freeze are April 11th to April 17th and the first freeze varies from October 20th to October 25th.

Both temperature and rainfall distribution favor warm-season, perennial plant communities in the area. However, sufficient late winter and early spring moisture allows a cool-season species to occupy a minor component within the plant community

Climate data was obtained from http://www.wrcc.sage.dri.edu/summary/climsmnm.html web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	Minimum	Maximum
Frost-free period (days):	164	196
Freeze-free period (days):	190	218
Mean annual precipitation (inches):	13	16

Monthly moisture (inches) and temperature (^{0}F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	0.23	0.46	21.6	57.3
February	0.30	0.44	24.0	59.2
March	0.46	0.65	29.1	68.0
April	0.36	0.92	36.3	78.3
May	0.42	1.68	45.7	82.6
June	1.20	1.86	52.2	91.2
July	2.03	2.73	59.1	92.9
August	2.09	2.75	58.1	91.0
September	1.65	1.92	51.1	84.8
October	1.23	1.93	40.1	74.7
November	0.46	0.88	28.9	63.0
December	0.37	0.62	22.1	54.6

Climate Stations:

				Period		
Station ID	290205	Location	Alamogordo Dam, NM	From: 1972	To:	2000
Station ID	293292	Location	Fort Sumner, NM	From: 01/01/14	To:	2000
Station ID	297254	Location	Ramon 8SW, NM	From: 03/04/57	To:	122/31/01
Station ID	298596	Location	Sumner Lake. NM	From: 01/0121	To:	12/31/01
Station ID	299851	Location	Yeso, NM	From: 01/01/48	To:	12/31/01

INFLUENCING WATER FEATURES

Narrative:

This site is not influenced by water from a wetland or stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

The soils of this site consist of fine sands and loamy sands that are shallow in depth. Depth is from 10 to 20 inches occurring over caliche, gypsum, sandstone or limestone. The soils are well drained. Permeability is rapid. Available water-holding capacity is low. The plant-water-soil-air relationship is good.

Parent Material Kind: Alluvium
Parent Material Origin: Mixed

Surface Texture:

1. Fine sand
2. Loamy sand
3. Loamy fine sand

Surface Texture Modifier:

1. N/A
2.
3.

Subsurface Texture Group: Sand
Surface Fragments <=3" (% Cover): N/A
Surface Fragments >3" (% Cover): N/A

Subsurface Fragments <=3" (%Volume): N/A
Subsurface Fragments >=3" (%Volume): N/A

	Minimum	Maximum
Drainage Class:	Well	Well
Permeability Class:	Moderately rapid	Moderately rapid
Depth (inches):	<10	20
Electrical Conductivity (mmhos/cm):	0.00	2.00
Sodium Absorption Ratio:	N/A	N/A
Soil Reaction (1:1 Water):	7.4	8.4
Soil Reaction (0.1M CaCl2):	N/A	N/A
Available Water Capacity (inches):	3	6
Calcium Carbonate Equivalent (percent):	N/A	N/A

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 **Narrative Label**: HCPC

Plant Community Narrative: Historic Climax Plant Community
This site is a grassland characterized by a mixture of warm-season, short, tall and mid-grasses. The grassland is dotted with shrubs and half-shrubs. Forbs are a minor component of the plant community but are plentiful during years of abundant rainfall. Cool-season grasses make up a minor component of the plant community.

Canopy Cover:	
Trees	2 – 5 %
Shrubs and half shrubs	3 – 6 %
Ground Cover (Aveage Percent of Surface Area).	
Grasses & Forbs	20 – 25
Bare ground	40 – 50
Surface gravel	0
Surface cobble and stone	0
Litter (percent)	5 – 10
Litter (average depth in cm.)	2

Plant Community Annual Production (by plant type):

Annual Production (lbs/ac)

Plant Type	Low	RV	High
Grass/Grasslike	632	909	1,185
Forb	64	92	120
Tree/Shrub/Vine	104	150	195
Lichen			
Moss			
Microbiotic Crusts			
Total	800	1,150	1,500

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	BOGR2 BOHI2	Blue Grama Hairy Grama	115 – 173	115 – 173
2	SCSC	Little Bluestem	115 – 173	115 – 173
3	BOCU	Sideoats Grama	173 – 230	173 – 230
4	BOER4	Black Grama	58 – 115	58 – 115
5	HENE5	New Mexico Feathergrass	58 – 115	58 – 115
6	ANHA	Sand Bluestem	115 – 173	115 – 173
7	SEVU2	Plains Bristlegrass	35 – 58	35 – 58
8	SPCR SPFL2	Sand Dropseed Mesa Dropseed	35 – 58	35 – 58
9	SONU2	Indiangrass	35 – 58	35 – 58
10	ERPEP2	Purple Lovegrass	35 – 58	35 – 58
11	2GRAM	Other Grasses	35 – 58	35 – 58

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
12	PLPA2 CRPOP SPHAE ERAN4	Woolly Indianwheat Leather Croton Globemallow spp. Annual Wildbuckwheat	35 – 58	35 – 58
13	2FP 2FA	Other Perennial Forbs Other Annual Forbs	35 – 58	35 – 58

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
14	RHTR MIACB NOMI JUNIP	Skunkbush Sumac Catclaw Mimosa Sacahuista Juniper spp.	58 – 115	58 – 115
15	YUGL	Small Soapweed Yucca	35 – 58	35 – 58
16	2SD	Other Shrubs	35 – 58	35 – 58

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Other species that could appear on this site include: threeawn spp., bottlebrush squirreltail, plains muhly, bush muhly, sand muhly, Arizona cottontop, Indian ricegrass, broom snakeweed, algerita, sand sagebrush, Bigelow sagebrush, cactus species, fourwing saltbush, winterfat, verbena, annual mustard, purple nightshade, curly dock, tansymustard, Russian thistle and astragalus spp.

Plant Growth Curves

Growth Curve ID **4018NM**

Growth Curve Name: **HCPC**

Growth Curve Description: **Grassland mixed with warm-season short, tall and mid-grasses dotted with shrubs and minor components of cool-season grasses and forbs.**

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	3	5	5	10	25	30	15	7	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

This site provides habitat, which supports a resident animal community that is characterized by pronghorn antelope, blacktailed jackrabbit, spotted ground squirrel, plains pocket mouse, southern plains woodrat, horned lark, scaled quail, round-tailed horned lizard and ornate box turtle.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations	
Soil Series	**Hydrologic Group**
Cardenas	D
Kolar	D

Recreational Uses:

Recreation potential is limited. The suitability for camping, picnicking and hiking is poor to fair and limited mainly by lack of live water and the lack of shade. Hunting is good for antelope, quail, dove and small game. The terrain typical of the "wide open spaces" enhances aesthetic appeal. The natural beauty of the site is enhanced by the variety of flowering plants that bloom from early spring to late fall with the availability of precipitation.

Wood Products:

This site has no significant potential for wood products.

Other Products:

Grazing:

This site is suitable for grazing by all kinds and classes of livestock during all seasons of the year. Approximately 80 percent of the total annual yield are from species that furnish forage for grazing animals. Continuous grazing during the growing season will cause the more desirable forage plants such as little bluestem, sideoats grama, black grama, New Mexico feathergrass and sand bluestem to decrease. Species most likely to invade the site are annual forbs, western ragweed, mesquite and oneseed juniper. Species most likely to increase are blue grama, hairy grama, sand muhly, threeawn spp., sand dropseed, skunkbush sumac and sacahuista. As the ecological condition deteriorates, it is accompanied by a sharp increase of blue grama. Most of the tall and mid-grass species will disappear as deterioration advances. In some areas, there may be large patches of skunkbush sumac, catclaw acacia or sacahuista that will increase to the point where it is dominating the site. As the condition deteriorates, it is usually accompanied by loss in plant cover, which causes wind erosion hazard, and loss of productivity. A system of deferred grazing, which varies the time of grazing and rest in pastures during successive years is needed to maintain or improve the plant community. Spring rest (April-June) benefits cool-season species such as New Mexico feathergrass and early forbs. Late spring and summer rest is needed for little bluestem, sideoats grama and sand bluestem to grow and reproduce. Rest during the winter is beneficial mainly to black grama. Cattle show a definite preference to black grama during the late winter and it can easily be over utilized. Winter rest will reduce the grazing pressure on black grama.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	**Ac/AUM**
100 - 76	2.5 – 3.8
75 – 51	3.5 – 5.0
50 – 26	4.6 – 8.0
25 – 0	8.0 +

Plant Part	Code	Species Preference	Code
Stems	S	None Selected	NS
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruits/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

Plant Preference by Animal Kind:

Animal Kind: Livestock
Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	D	P	P	P	P	P	D	D	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	D	P	P	P	D	D	D	D	D	D
Sand Bluestem	Andropogon hallii	EP	D	D	D	D	P	P	P	P	P	D	D	D
Plains Bristlegrass	Setaria vulpiseta	EP	D	D	D	D	P	P	P	P	P	D	D	D

Animal Kind: Livestock
Animal Type: Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Perennial Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Annual Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Woolly Indianwheat	Plantago purshii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Leather Croton	Pottsii pottsii	EP	D	D	D	D	D	D	D	D	D	D	D	D
Globemallow	Sphaeralcea spp.	EP	U	U	U	D	D	D	D	D	D	U	U	U

Animal Kind: Wildlife
Animal Type: Antelope

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Perennial Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Annual Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Woolly Indianwheat	Plantago purshii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Leather Croton	Pottsii pottsii	EP	D	D	D	D	D	D	D	D	D	D	D	D
Globemallow	Sphaeralcea spp.	EP	U	U	U	D	D	D	D	D	D	U	U	U

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

State Correlation:

This site has been correlated with the following sites: _____

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

Type Locality:

State: **New Mexico**

County: **De Baca**

Latitude: _____

Longitude: _____

Township: _____

Range: _____

Section: _____

Is the type locality sensitive? **Yes** ☐ **No** ☐

General Legal Description: _____

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the Pecos-Canadian Plains and Valleys 70 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: San Miguel, Quay, Guadalupe, De Baca and Chaves.

Characteristic Soils Are:	
Cardenas	Kolar
Other Soils included are:	

Site Description Approval:

Author	Date	Approval	Date
Don Sylvester	07/26/78	Don Sylvester	07/26/78

Site Description Revision:

Author	Date	Approval	Date
Elizabeth Wright	12/10/02	George Chavez	2/11/03